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A NEW GENUS OF FUNDULINE CYPRINODONT FISHES FROM THE ORINOCO BASIN, VENEZUELA.

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When I visited the United States National Museum in September, 1930, Mr. Barton A. Bean asked me to examine some Cyprinodont fishes which had been received from Dr. F. F. Russell of the International Health Board of the Rockefeller Foundation as mosquito destroyers. Among them was a single specimen of a very peculiar form from Venezuela closely resembling certain East African species of *Adiniops*.

In many anti-larval campaigns various Cyprinodonts (*Gambusia*, *Lebistes*, and others) have been transported long distances and introduced into mosquito infested areas. This Venezuelan fish so closely resembled *Adiniops* that in the absence of comparative material I could assign it to no other genus, and I suggested to Mr. Bean the possibility of an importation, remote though it seemed.

Thus the matter rested until this summer. Then I saw Ladewig's paper on a so far unidentified aquarium fish recently imported into Germany from Venezuela. His description and sketch reminded me of the Venezuelan fish in the National Museum and I at once wrote to Washington for the specimen. Through the courtesy of Dr. Alexander Wetmore and Dr. Leonhard Stejneger, I now have it before me. With comparative material of most of the African and American genera of Cyprinodontidae at hand I find that this fish represents a very distinct new genus which is herewith described.

AUSTROFUNDULUS, new genus.

Genotype: *Austrofundulus transilis*, new species.

Preorbital extremely narrow, forming a rectangular notch before eye,

the upper part of the vertical limb of which slants backward. Lip-rictus angled, fitting up into the notch when mouth is closed. Maxillary entirely imbedded in the flesh of the preorbital region. Body deep, greatly compressed posteriorly, wide and heavy in the head region. Head at occiput deeper than wide. Caudal peduncle not blade like below. Orbital margin not free, the membrane confluent with the surrounding skin, as in *Rivulus*. Pseudobranchiae present. A few deciduous teeth on the head of the vomer. Teeth in each jaw conical, recurved, in a relatively wide band of several irregular rows, the outer one of considerably enlarged and very widely spaced teeth. Dorsal and anal fins of moderate length, the posterior rays longest, their origins almost opposite, that of the dorsal slightly more posterior. Caudal fin subtruncate, finely scaled more than halfway to the tip; the caudal scales are in straight series, each composed partly of one and partly of two rows of scales, each series extending out over the interspace between two caudal rays, the various series diverging and becoming reduced in size as they proceed outwards. Pelvic fins not confluent but almost contiguous, separated by a very narrow space.

Austrofundulus transilis, new species.

Holotype.—An adult male, obtained in a pond in the State of Guarico, in the Orinoco drainage of Venezuela, received from Dr. Frederick F. Russell, U. S. N. M. No. 92191.

Top of head flattened, the dorsal profile slightly concave to above preopercle, thence convex to the highest part of the dorsum over middle of appressed pectoral, thence straight and slightly downward to dorsal origin and peduncle. Ventral profile of head strongly convex from lower lip, the convexity continued by the belly to the pelvic fins, thence upward along anal base to peduncle. Dorsum from above pectoral origin compressed and rather sharp. Appressed pectoral fins not quite reaching vertical of pelvic origin. Pelvics pointed, reaching base of third or fourth anal ray. Dorsal and anal fins covered with a tough membrane, this thicker at base.

Dorsal 13½, first ray very short, others increasing in length to tenth or eleventh; tips broken in type. Anal 15½, first ray short, others increasing in length to the twelfth. Scales 33 lateral to end of hypural, transverse 12 from dorsal origin to pelvic base.

The measurements of the holotype follow. All longitudinal measurements are made to the vertical of the point indicated, on an ideal longitudinal axis of the fish.

Measurements of Holotype in Millimeters.

Standard length	40.0
Total length	50.0
Greatest depth	13.0
Least depth caudal peduncle	7.0
Length caudal peduncle (from anal)	8.0
Length head	12.0
Depth head at occiput	10.0

Greatest width head	8.0
Eye diameter	4.0
Interorbital	6.0
Length snout	3.0
Snout tip to dorsal origin	26.0
Snout tip to anal origin	24.5
Snout tip to pelvic origin	20.0
Length pectoral	7.0
Length pelvic	5.0
Length dorsal base	8.0
Length anal base	8.0
Length longest anal ray	6.5

The holotype and only specimen is badly faded. It is wholly pale yellowish brown, but there are indications of darker spots on the dorsal and anal fins.

Austrofundulus is a member of the subfamily Fundulinæ and more specifically of the tribe Rivulini (see Myers, 1931). In my synopsis of the Neotropical Rivulini (Myers, 1927) it falls in the group containing *Neofundulus*, *Cynopœcilus*, and *Cynolebias*. I have compared it directly with all three. It differs from these, as well as from all the other genera there considered (save perhaps *Rivulichthys*, which I have not seen) in the peculiar squamation of the caudal. *Rivulichthys* is an elongate fish with a very posterior dorsal, very different from *Austrofundulus*. Among the Rivulini the new genus agrees in the caudal squamation only with an undescribed African genus (Myers, 1932). The problematical *Ilyodon* Eigenmann (1907) from Paraguay differs at once in the bicuspid teeth.

The resemblance of *Austrofundulus* to the African *Adiniops* is most remarkable, but the likeness appears to be a matter of parallelism rather than of close relationship. *Adiniops* differs not only in the normal scaling of the caudal base but also in the free orbital rim and in the maxillary. In *Adiniops* and its close relatives, *Aphyosemion* and *Nothobranchius*, the maxillary is closely bound down to the preorbital region by thick skin nearly to its end, but the very tip of the bone is left projecting as a round, membrane-covered knob. In *Austrofundulus*, on the other hand, the maxillary is entirely imbedded in the flesh of the preorbital region, and the tip is not visible. Furthermore, the vertical limb of the preorbital notch (the line of the preorbital edge) slants dorso-posteriorly more than in *Adiniops*, and the predorsal region is compressed, not flattened as in the African genera.

The fish described and figured by Ladewig (1932) as "*Fundulus* spec. ? aus Venezuela" is probably an *Austrofundulus*. One male and two female specimens were transported alive to Berlin in March, 1932, by Dr. Oeser, who collected them while travelling in Venezuela. The locality given by Ladewig is "ein Bach in Venezuela in 1000 m. Höhe." The fish have been bred in the aquarium establishment of Scholze and Pötzschke in Berlin, and Ladewig gives details of the breeding. Whether the species is identical with *A. transilis* or not I can not say.

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